WHITE PAPER
PHYSICIAN MENTORING AND TRAINING
OCCUPATIONAL HEALTH SERVICES BUILDING BLOCK NO. 1
DRAFT -- for discussion purposes only
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Introduction

Two pilot Centers of Occupational Health and Education (COHE), proposed in the OHS Project Final report, will need to develop and implement formal educational strategies for community physicians. The aim of the educational strategies will be to improve community physicians' skills in treating injured and ill workers. In order to improve community physicians' knowledge regarding issues unique to occupational health care delivery, the COHEs will be expected to apply effective educational strategies. Our premise is that appropriate educational strategies will yield improvements in worker outcomes. This paper assesses the relative effectiveness of strategies for mentoring and training community physicians and makes preliminary recommendations about the most promising educational approaches to expect of the COHEs.

Purpose

This paper identifies desired traits for pilot Centers of Occupational Health and Education (COHE). It also suggests the types of educational strategies that should be offered to the community physicians that may be linked to the Centers. The recommendations included here are for developing questions for the COHE Request for Proposals (RFP). This RFP will be used to solicit applications from health care organizations and then to select two COHEs. This paper will also serve as a resource for assigning relative weights to the RFP questions. The recommendations in this paper are based on:

- Reviews of information from scientific literature regarding effectiveness of clinical continuing education strategies.

- Focus groups conducted with medical and chiropractic physicians in Washington for the OHS policy project.

- Reviews of information from general literature about physician education.

What's the current state?

Currently, mentoring and training of community physicians is an underutilized strategy for improving outcomes for Washington's injured workers. There are few well-established formal mechanisms for occupational health experts to exchange information with community physicians who are not specialists in occupational health. In addition, there are limitations in the quantity and quality of educational opportunities geared toward community physicians that place an emphasis on occupational health issues. At present, many community physicians who treat injured and ill workers do so infrequently.

Understandably, there may be a lack of physician interest, time, and incentives to pursue topics unique to occupational health care.

What's the desired future state?

The OHS Project will use Centers of Occupational Health and Education to increase the exchange of evidence-based information about best practices for improving injured worker health and disability outcomes. The COHEs will be used to increase the quality, availability, and effectiveness of occupational health training for community physicians. The premise underlying this effort is that enhancing general practitioners' knowledge, skills, and abilities regarding the unique issues associated with the care of injured and ill workers will improve worker outcomes.

Examples of practices that should be fostered to help workers with their recovery include regular communication with the employer, early identification of return-to-work goals, and case management. Additional examples of practices to encourage are developing adequate physician understanding of the work place environment and modifiable tasks, responding quickly to injuries, and rapid involvement of occupational health specialists. This could include an ergonomist, physical medicine specialist, or occupational therapist. Other examples of improved occupational health practices include being accessible to claim managers, employers, or vocational rehabilitation counselors to improve worker outcomes following industrial injury or illness.

What are the best ways to achieve the desired future state?

The following section reviews mentoring and training options that could be used to improve community physicians' knowledge of occupational health topics. The options are presented in order of their relative effectiveness. The first group of options presented includes the more effective strategies, the second group includes strategies that hold promise, and the last group is those strategies that appear to be least effective.

Discussion and Analysis of Options

<u>Most effective physician mentoring and training approaches</u>

According to the scientific literature, the following mentoring and training strategies are approaches most likely to be effective in improving physician practices and improving patient outcomes. These are summarized in Table 1 on page seven.

1) **Opinion leaders plus clinical guidelines** – considerable evidence shows that respected local colleagues along with community-based guidelines yield improved patient outcomes. The combination of a respected onsite colleague and care pathways developed in collaboration with physicians in the community has been shown to improve health outcomes. Guidelines alone will not achieve the same results. Studies show that when guidelines are passively distributed and are not linked with feedback from a respected clinical leader, they have little impact on

physician practice.[1] In addition, evidence shows guidelines are more likely to be used if they reflect input from the community physicians who will use them as a resource. This calls for including practicing physicians in the process of developing guidelines.[2] L&I has accomplished this through guideline development subcommittees of its physician and chiropractic advisory committees.[3]

2) **Interactive continuing medical education (CMEs)** – a comprehensive literature review using only randomized controlled studies concluded that interactive CME sessions are effective in improving physician practices and, in some instances, improving patient outcomes.[4] Interactive CMEs rely on practice sessions aimed at hands on skill development, rather than using traditional lecture style formats. A recent award winning CME project in occupational health care that is worth noting used interactive CMEs. Although is has not be evaluated scientifically, it illustrates use of this method for occupational health. The CME started with a didactic session and then quickly moved to interactive CMEs. After a didactic overview of workers' compensation issues, physicians began meeting in multi-disciplinary quality improvement teams. The teams focused on improving care delivery for common industrial conditions. CME credits were given for participation in the teams. The teams included medical doctors, chiropractors, occupational health nurses, and physical therapists who worked together to improve care delivery. In addition, CME credit was offered for plant tours aimed at increasing physician comprehension of ergonomic issues and the work place.[5]

3) **Reminders** – two literature reviews of randomized controlled trials found that reminders are effective in improving physician practice.[6] Reminders are work prompts that recommend to the physician some action be taken on behalf of the patient. For example, some health care clinics send computer reminders by e-mail to physicians asking them to perform breast cancer screening when women patients are over age 40. This promotes preventative medicine practices. The reminders prompt

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[1] Eisenberg, John M, *Doctors Decisions and the Cost of Medical Care*, Ann Arbor MI, Health Administration Press, 1986.

[2] Calkins, Evan, et. al., "The small group consensus process for changing physician practices," *HMO Practice*, September 1995, 9(3):107-110.

[3] Franklin, G., Plaeger-Brockway, R., "Medical Practice Guidelines in Washington Workers' Compensation," *Review Regulate or Reform?* Workers' Compensation Research Institute, 1994.

[4] Davis, Dave, et. al., "Impact of formal continuing medical education: do conferences, workshops, rounds, and other traditional continuing education activities change physician behavior or health care outcomes? *JAMA*, September 1, 1999;282(9):867-74

[5] Pyatt, R.S., Caldwell, S.C., "Stimulating a favorable community work environment through innovative CME,", *Washington Business Group on Health*, October 1997.

[6] Davis, Dave, "Does CME Work? An analysis of the effect of educational activities on physician performance and health care outcomes", *International Journal of Psychiatry*, 1998, 28(1):21-39. Shea, S., et. al., A meta-analysis of 16 randomized controlled trials to evaluate computer-based clinical reminder systems for preventative care in the ambulatory setting," *Journal of American Medical Information Association*, November-December 1996, (6):399-409.

physicians' to implement clinical guidelines. A less authoritative, but relevant, study showed that computerized prompts to physicians increased their attention to using clinical guidelines.[7]

4) **Academic detailing or outreach visits** – two literature reviews of randomized controlled trials concluded that academic detailing is one of the more effective methods for influencing physician practice.[8] Academic detailing typically includes focused training about clinical guidelines, prescribing practices, or screening tests. The training is usually done at the physician's work place. A "detail person" or subject matter expert visits physicians at their work place. During their visit they provide detailed information about appropriate diagnosis, treatment, or prescribing methods. Studies focused on topics such as improving drug prescribing, using clinical guidelines to help with treatment decisions, and increasing health promotion activities such as breast cancer screening.[9]

Promising approaches to physician mentoring and training with limited research

5) **Educational materials for physicians** -- findings presented thus far suggest that educational material without interactive learning approaches or clinical opinion leaders are less effective ways to change physician practice. It is worth noting, however, that physicians' age and many other factors can influence learning styles. A recent survey of 1,400 family physicians found that older physicians tend to spend more time on individual CME activities, besides using group CMEs. They tend to use reading and listening to audiocassettes more than their younger colleagues. Younger physicians tend to use group CMEs as their preferred approach to expanding their knowledge. According to the survey, older physicians also use group CMEs, but, because they use individualized learning, they spend more total time on CMEs than younger physicians.[10]

6) **Mentoring** – one randomized, controlled trial evaluated an educational program that provided in depth training to physicians identified as "educationally influential." The program was designed to evaluate what impact these physicians had in changing the practice patterns of their peers. After intensive training in the management of chronic obstructive pulmonary disease (COPD), the educationally influential physicians returned to their communities. The study did not require that the

[7] Goethe, J.W., et. al., "Physician compliance with practice guidelines," *Conn Medicine*, September 1997, 61(9):553-558.

[8] Davis, Dave, Taylor-Vaisey, A., "Translating guidelines into practice. A systematic review of theoretical concepts, practical experience, and research evidence in the adoption of clinical practice guidelines.", *CMAJ*, August 1997, 157(4):408-416. Davis, Dave, "Does CME Work? An analysis of the effect of educational activities on physician performance and health care outcomes", *International Journal of Psychiatry*, 1998, 28(1):21-39.

[9] Daly, M.B., et. al., "Academic detailing: a model for in-office CME," *Journal of Cancer Education*, Winter 1993, 8(4):273-280.

[10] Goulet, F., et. al., "Participation in CME activities," *Canadian Family Physician*, March 1998, 44:541-548.

physicians share their knowledge in a formal education program. The educationally influential physicians maintained logs of their contacts with physicians in their community. In general, half of the contacts were the result of formal consultations requested by their colleagues and the other half occurred informally. The community was the unit of evaluation for the study. Control communities demonstrated statistically significant improvement in process measures related to management of COPD. The conclusion of the study was that there are physicians with informal influence on their peers, and that training those physicians can improve practice patterns throughout their community.[11]

7) **High technology learning** -- physician use of high technology as a learning and consulting tool is relatively new. Innovative projects are being undertaken largely by research institutions, for instance, The Royal College of Physicians and Surgeons in Canada and the Stanford Health Information Network for Education and the Indiana University of Medicine. The Medical Office of the XX1st Century (MOXXI) project is a randomized controlled trial of 110 physicians and approximately 16,000 elderly patients in Montreal. Of two randomized controlled trials found addressing the use of high technology as a learning medium only MOXXI uses patient outcomes as a measure of effectiveness.[12] Study results are being analyzed now and a report is due soon. The study's author states that getting physicians to take the time to learn how to use the technology was one of their greatest challenges.

   Lack of physician access or ownership of computers, resistance to technology, and concern about increased liability were cited as drawbacks to computer based learning and consulting in several articles based on key informant and opinion surveys. [13] At the same time, authors find CD-ROM and Internet-Based educational programs encouraging as a way to increase the practice of evidence based medicine.[14]

<u>Less effective physician mentoring and training approaches</u>

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[11] Stross, J.K., et al, "Continuing Education in Pulmonary Disease for Primary-Care Physicians" *American Review of Respiratory Disease*, June 1983, 127(6):739-46.

[12] Barnes, B., "Creating the Practice-Learning Environment: Using Information Technology to Support a New Model of Continuing Medical Education," *Academic Medicine*, March 1998, 73(3):278-281. Tamblyn, R., et. al., "The Office of the Future Project: Integration of New Technology Into Office Practice. Academic Detailing Through the Super Highway," ITCH Conference, April/May/June, 5(2):104-108

[13] Jordans, C.F.C., et. al. "Use of systematic reviews of randomized trials by Australian neonatologists and obstetricians," *Medical Journal Australia*, March 16, 1998 168:267-270. McKibbon, K. A. and Walker-Dilks, C.J., "The quality and impact of Medline searches performed by end users," Health Libraries Review, 12 (1995):191-200. Forti, E. M., et. al. "Ann assessment of Practice Support and Continuing Medical Education Needs of Rural Pennsylvania Family Physicians," *The Journal of Rural Health*, Fall 1996, 12(5):432-437

[14] Siwicki, B., "Telemedicine Overcoming Physician Resistance," Health Data Management, October 1997, 129 Bulletin of the Medical Library Association, April 1999, 87(2):206-210. Robb, N., "Telemedicine may help change the face of medical care in Eastern Canada," *Canadian Medical Association Journal*, April 1, 1997, 156(7):1009-1011. Furrow, B.R., "Broadcasting Clinical Guidelines on the Internet: Will Physicians Tune In?," *American Journal of Law and Medicine*, 25 (1999),:403-421

8) **Feedback based upon audits** -- one literature review concluded feedback and audits show mixed results in either improving physician practices or improving patient outcomes. The most effective approach to giving physicians feedback appeared to be using chart reviews to identify areas for improvement. Feedback based upon audits proved to be less effective in improving physician practices.[15] This finding is reinforced by a randomized controlled trial that compared two approaches: audit feedback versus education by local opinion leaders. The study found no change in physician practice using audit feedback, but found a statistically significant change in practice when using education by respected local colleagues.[16]

9) **Didactic continuing medical education (CME)** – three literature reviews show formal CME sessions, that are didactic in approach, are ineffective in improving physician practice and improving patient outcomes. Two reasons the authors cite as being responsible for the poor results are: (a) didactic CMEs lack interactive learning methods that are helpful in reinforcing the concepts for physicians; and (b) didactic CMEs generally lack any follow-up sessions, which fails to reinforce training for physicians following the initial lecture. [17]

10) **Guidelines without opinion leaders** – some research shows clinical guidelines are less effective in improving physician practice when they are not accompanied by support from a respected local colleague. One literature review points out the critical role respected colleagues play in supporting the use of guidelines. The author refers to these people as "educationally influential physicians, the ones to whom others turn for advice." This research suggests that guidelines offered without personal communications and support from an influential clinical colleague are less effective. Therefore, clinical guidelines distributed without such face-to-face contact are less effective in improving practices.[18]

The following table provides a summary of what appear to be the *most promising* mentoring and training approaches. The other less promising options discussed in the paper are not included in the table.

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[15] Davis, Dave, "Does CME Work? An analysis of the effect of educational activities on physician performance and health care outcomes", *International Journal of Psychiatry*, 1998, 28(1):21-39.

[16] Lomas, Jonathan, et. al., "Opinion leaders vs audit and feedback to implement practice guidelines," *JAMA*, May 1, 1991, 285(17): 2202-2207.

[17] Davis, Dave, et. al., "Impact of formal continuing medical education: do conferences, workshops, rounds, and other traditional continuing education activities change physician behavior or health care outcomes? *JAMA*, September 1, 1999;282(9):867-74. Davis, Dave, et. al., "Changing physician performance. A systematic review of the effect of continuing medical education strategies," *JAMA*, September 6, 1995, 274(9):700-705. Davis, Dave, "Does CME Work? An analysis of the effect of educational activities on physician performance and health care outcomes", *International Journal of Psychiatry*, 1998, 28(1):21-39.

[18] Eisenberg, John M, *Doctors Decisions and the Cost of Medical Care*, Ann Arbor MI, Health Adminstration Press, 1986.

Table 1
Options for Consideration
in OHS Pilot Project

Options	Description	Benefits	Challenges
Opinion leaders plus clinical guidelines	Respected local colleagues provide support for using guidelines developed by community physicians	Improves physician practices and patient outcomes	Difficult to identify clinical leaders and involve physicians in guideline development
Interactive CME	Training emphasizes hands on skill development to increase retention of knowledge	Improves physician practices and patient outcomes	Labor and resource intensive to develop
Reminders	Work prompts that recommend actions to physician to improve patient care	Improves physician practices by encouraging health promotion and illness prevention	May require development of improved electronic communication
Academic detailing or outreach visits	A subject matter expert visits physicians at their work place to train them on guidelines, prescribing, or health promotion	Improves physician practices	Reaches fewer physicians and is expensive
Educational materials for physicians	Individualized learning materials such as books, journals, and audio tapes	Meets the needs of physicians who prefer to use individualized learning	Unclear whether self paced learning improves physician practice or patient outcomes

Preliminary Recommendations for Discussion

A preliminary recommendation is that L&I should consider giving more points to COHEs that will agree to promote physician training in occupational health using a combination of the following five approaches:

1. **Opinion leaders (respected local colleagues) plus clinical guidelines**
2. **Interactive continuing medical education (CMEs)**
3. **Reminders**
4. **Academic detailing or outreach visits**
5. **Educational materials for physicians**